

Application No. 10/035,281
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CLAIMS

What I claim as my invention is:

1. (Claim 21) A method of stabilizing and fusing reshaped lamina after a laminoplasty comprising the steps of:

displacing the severed edges of a lamina (at the junction of the lamina and facet),
providing a spacing means with the edges of the said spacing means contoured to engage the severed bone edges (lamina at one end and the facet at the other end), and
a fixation means attached to the said spacing means in the middle with curvatures at both ends (in opposing directions) allowing bone screw placement through both ends of the fixation means (one end of the said fixation means to the lamina and bone screw placement through the other end of the said fixation means to the facet)

2. (Claim 1) The method of claim 1 wherein the said fixation means (A bone stabilization device for the lamina of the spine after laminoplasty) comprising of an elongated plate with curvature at the ends of the longitudinal axis, downward for fixation to a lamina and upward for fixation to a facet by way of a screw through bone screw receiving holes at each end of the plate

3. (Claim 9) The method of claim 1 wherein the said fixation means (A bone stabilization device for the lamina of the spine after laminoplasty) comprising of an elongated plate with downward curvature at both ends defining a longitudinal axis for fixation to the lamina through bone receiving holes at each end of the plate (bone screw receiving holes at the ends wherein said plate has a downward curvature at both ends to allow for fixation to the lamina via screws)

4. (Claim 16). The method of claim 1 wherein the said fixation means comprising of an elongated plate with downward L-shaped curvature at both ends defining a longitudinal axis for fixation to facet and/or lamina bone on each side through bone receiving holes at each end of the plate (A bone stabilization device of claim 9 further including: a L-shaped curvature at the end on both sides to allow for fixation to the facets by means of bone fasteners)
5. (Claim 17). The method of claim 1 wherein the said spacing means (A spacer for the lamina of the spine after laminoplasty) comprising of a rectangular shape with concave curved edges contoured at the longitudinal ends to allow for engagement between the lamina
6. (Claim 18). The method of claim 1 wherein the said spacing means (A spacer for the lamina of the spine after laminoplasty) comprising of a rectangular shape with both edges at the end defining the longitudinal axis of the spacer have a superior cuff to allow for engagement between the lamina
7. The method (A bone stabilization device) of claim 1 wherein said fixation means (device) is made from a biocompatible material selected from the group consisting of titanium, titanium alloys, surgical steel, polymeric material, ceramic material, resorbable material, polyglyconate, bone, and hydroxyapatite
8. The method of claim 1 (A bone fusion device of claim 3) wherein said spacing means (device) is made from a component taken from the following group: allograft bone, autograft bone, xenograft bone, hydroxyapatite, resorbable material, biocompatible material suitable for bone fusion (either bone, hydroxyapatite or a resorbable material)
9. (Claim 18). A bone spacer (for the lamina of the spine) comprising of a rectangular

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shape wherein both edges at the end defining the longitudinal axis of the spacer have a superior cuff to allow for engagement between the severed laminoplasty bone ends (lamina)

10. (Claim 19). The said (A) spacer of claim 9 being hollow with openings at both sides packed with bone fusion material selected from the group consisting of autograft bone, allograft bone, xenograft bone, bone morphogenic protein, hydroxyapatite, a biocompatible material suitable for bone fusion (17 wherein said device is made from either bone, hydroxyapatite, or a biocompatible material suitable for bone fusion)

11. (Claim 20). The said spacer of claim 9 being solid and made from a component taken from the following group: allograft bone, autograft bone, xenograft bone, hydroxyapatite, resorbable material, biocompatible material suitable for fusion (A spacer of claim 18 wherein said device is made from either bone, hydroxyapatite, or a biocompatible material suitable for bone fusion)

12. (Claim 17). A bone spacer for the lamina of the spine after laminoplasty comprising of a rectangular shape with concave curved edges contoured at the longitudinal ends to allow for engagement between the bone edges (lamina)

13. (Claim 22). A method of stabilizing the reshaped lamina after a laminoplasty comprising the steps of:

displacing the severed edge of the lamina at the junction of the lamina and facet, a fixation means comprising of a plate with appendages at either ends prior to the curvature defining a longitudinal axis of the plate to secure the displaced bone ends (lamina on one side and the facet on the other) and maintain their repositioned shape along with fixation of the plate to the bone (lamina and facet) via bone fasteners

14. (Claim 4). The said plate of claim 13 wherein one of the said appendages is curved at one end and another is straight (A bone stabilization device of claim 1 wherein said plate has a curved appendage at one end and a straight appendage) at the other end perpendicular to the longitudinal plate axis and prior to the curvature at both ends

15. (Claim 5). The said plate of claim 13 wherein the said appendage is curved (A bone stabilization device of claim 1 wherein said plate has a curved appendage) at one end perpendicular to the longitudinal plate axis and prior to the curvature

16. (Claim 7) The said plate of claim 13 (A bone stabilization device of claim 1 wherein said device) is made from a biocompatible material selected from the group consisting of titanium, titanium alloys, surgical steel, polymeric material, ceramic material, resorbable material, polyglyconate, bone, and hydroxyapatite

17. (Claim 25). A method of stabilizing the reshaped lamina after a laminoplasty comprising the steps of:
displacing both lamina through severed edges in the middle,
providing fixation means comprising of a plate with two appendages perpendicular to the longitudinal axis of the (said) fixation means spaced apart in the middle to engage the lamina on either side with the said fixation means also comprising of curvatures at both ends to secure the fixation means to the lamina and/or facets on both sides with bone fasteners

18. (Claim 10). The said plate of claim 17 wherein the said appendage is curved (The bone stabilization device of claim 9 further including: a curved appendage) in the middle perpendicular to the longitudinal plate axis and prior to the curvature at both ends to secure the lamina

19. (Claim 12). The said plate of claim 17 wherein the said appendages are straight (A bone stabilization device of claim 9 wherein said plate has straight appendages) in the middle perpendicular to the longitudinal plate axis and prior to the curvature at both ends
20. The said plate of claim 17 wherein the said curvatures are L-shaped at both ends
21. (Claim 13). The said plate of claim 17 (A bone stabilization device of claim 9 wherein said plate) has a plurality of bone screw receiving holes throughout the plate
22. (Claim 14). The said plate of claim 17 (A bone stabilization device of claim 9 wherein said device) is made from biocompatible material selected from the group consisting of titanium, titanium alloys, surgical steel, polymeric material, ceramic material, resorbable material, polyglyconate, bone, and hydroxyapatite